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Appendix A: Resources

This manual provides current contacts for lead reclamation companies, lead recycling companies, bullet trap manufacturers, and organizations that provide prevention and/or remediation techniques to assist clubs and firing ranges in implementing Best Management Practices for shooting ranges. Vendors who are interested in being added to the list of lead reclaimers or remediation contractors should contact:

Lead Shot Coordinator
RCRA Compliance Branch
US EPA Region 2
290 Broadway
New York, NY 10007-1866
Telephone: (212)637-4145
E-mail: Leadshot.Region2@epa.gov



Lead Recycling Companies*

Below is a list of recycling companies for lead in soils and spent lead shot/bullets that were contacted during the writing of this manual. It is not inclusive and is included for informational purposes only. Mention of these companies does not serve as an endorsement by the EPA.

ASARCO, Inc. 180 Maiden Lane New York, NY 10038 212/510-2215 Steven Butler Web Site: http://www.asarco.com	American Waste Transport & Recycling, Inc. 12-B The Ellipse, Suite 216 Mt. Laurel, NJ 08054 609/985-7300 Bruce Levin
The Doe Run Company Highway KK Boss, MO 65440 or 881 Main Street Herculaneum, MO 63048 800/633-8566 Lou Magdits and Eric Klein	East Penn Manufacturing Company, Inc. Deka Road Lyon Station, PA 19536 215/682-6361 Kan Breidegam, Rick Leiby, Ken Pike Web Site: http://www.eastpenn-deka.com
Encycle Texas, Inc. 5500 Up Rive Road Corpus Christi, TX 78407 800/433-0144 R.N. George, J.W.O'Neill Web Site: http://www.asarco.com/factsheet/encycle.html	Exide 845 Penn Street P.O. Box 14205 Reading, PA 19612-4205 800/437-8495 Robert Jordan
Gopher Smelting and Refining 3385 Highway 149 Eagan, MN 55121 612/454-3310 Mark Kutoff	Kinsbursky Brothers, Inc. 1314 N. Lemon Street Anaheim, CA 92801 714/738-8516 Michael Margolies Web Site: http://www.kinsbursky.com
Refined Metals Corp. 257 W. Mallory Memphis, TN 38109 or 3700 Arlington Beach Grove, IN 46107 901/755-3770 Bill Frediger	Schuykill Metals Corp Box 74040 Baton Rouge, LA 70874 800/621-8236 Glen Krause
Schuykill Metals Corporation P.O. Box 156 Forest City, MO 64451 816/446-3321 Ken Fisher	

* Lead recycling companies smelt lead

Lead Reclamation Companies*

Below is a list of reclamation companies for lead in soils and spent lead shot/bullets that were contacted during the writing of this manual. It is not inclusive and is included for informational purposes only. Local scrap metal recyclers may also accept spent lead shot or spent bullets. Mention of these companies does not serve as an endorsement by the EPA.

<p>Brice Environmental 555 Route 31 P.O. Box 78 Ringo, NJ 08551 908/806-3655 Mike Warminski</p> <p>Comments: Brice works across the U.S. and reclaims primarily from earthen backstops and sand traps. Brice will perform a pre-reclamation range visit and focuses on reclamation at military, law enforcement, and county ranges. Brice establishes a flat fee for reclamation, then returns a percentage of the economic value received to the range owner/operator after the lead is sold.</p>	<p>Entact 1360 N. Wood Dale Road Suite A Wood Dale, IL 60191 630/616-2100 Richard Wood Web Site: http://www.entact.com</p> <p>Comments: Entact works across the U.S. They perform physical removal of the lead from backstops and chemical treatment of soils to reduce lead breakdown and mobility. Once lead is removed, the soil is placed back into the backstop. Entact charges a fee for reclamation, established in a contract with the ranges. As a provision of individual contracts, Entact splits a percentage of the sale of lead with range owners/operators if a large amount of lead is reclaimed with minimal effort. However, if the amount of lead reclaimed is minimal and/or the level of effort to reclaim is high, ranges may not receive a percentage of the economic returns and may have to pay more.</p>
<p>Environmental & Engineering Solutions, Inc. 250 South Main Street Mendon, UT 84325-0280 801/753-6062</p> <p>Comments: Environmental & Engineering Solutions works in the western part of the U.S. They identify and physically remove contaminated soils via bulldozers and shovels, sending the soil to lead processing facilities. Removed soil is replaced with new soil. They work strictly on an hourly fee basis, with no split of economic returns.</p>	<p>Karl & Associates, Inc. P.O. Box 1790 Mohnton, PA 11540 610/856-7700 Mike Krisher</p> <p>Comments: Karl & Associates works primarily in the mid-Atlantic area. Lead-containing soil is physically removed and sent to licensed disposal sites or licensed recycling facilities. A flat fee for removal of lead-containing soils is used with no percentage split of economic returns from reclaimed lead.</p>

* Lead reclamation companies reclaim lead from ranges.

Lead Reclamation Companies Con't.

<p>Lead Reclamation Division of Hardcast Enterprises, Inc. 23128 Wildwood Road Newhall, CA 91321 805/259-4796 or 805/723-6700 fax: 805/723-5250 Fred Wooldridge</p> <p>Comments: Lead Reclamation works primarily in southern California, using a wet system and gravity separation to remove lead. Since reclaimed lead is processed by the company, there is no percentage split of economic value of reclaimed lead. Lead Reclamation establishes a flat fee for reclamation.</p>	<p>MARCOR Box 1043 246 Cockeysville Road Hunt Valley, MD 21030 410/785-0001 Dave Jungers Web Site: http://www.marcor.com</p> <p>Comments: MARCOR works across the U.S. Their process uses a shaker system to remove lead from contaminated soils, with soils replaced in the backstop. MARCOR establishes a flat fee for removal of lead-containing soils, but then gives the reclaimed lead to ranges to sell.*</p> <p>* Range owners/operators must have lead removed from their range and taken to a recycler as soon as possible to avoid regulatory involvement.</p>
<p>National Range Recovery Corp. P.O. Box 1312 Bloomfield, NJ 07003 973/338-5023 fax: 973/338-7496 Tom Schafer</p> <p>Comments: National Range Recovery works across the U.S. The company establishes a flat fee for removal of lead- containing soils, then gives the reclaimed lead to ranges to sell.*</p> <p>* Range owners/operators must have lead removed from their range and taken to a recycler as soon as possible to avoid regulatory involvement.</p>	<p>Waste Recycling Solutions, Inc. 19 Peconic Avenue Riverhead, NY 11901 631/369-9601 Tommy Arabia</p> <p>Comments: Waste Recycling Solutions works across the U.S. and uses a vacuum system to remove lead. Economic returns for lead are split with the range.</p>

Other Resources

Below is a list of additional phone numbers that may be of use if you have general questions including questions on range construction, design, and implementing BMPs.

U.S. Fish and Wildlife Service 4401 North Fairfax Arlington, VA 22203 703/358-2156	National Shooting Sports Foundation and National Association of Shooting Ranges 11 Mile Hill Road Newtown, CT 06470 203/426-1320 NSSF Web Site: http://www.nssf.org NASR Web Site: http://www.rangeinfo.org
Wildlife Management Institute 1101 14th Street, N.W. Suite 801 Washington, DC 20005 202/371-1808 Web Site: http://www.jwdc.com/wmi/main/html	National Rifle Association of America 11250 Waples Mills Road Fairfax, VA 22030 800/NRA-3888 Web Site: http://www.nra.org
American ZZ, Inc. 171 Spring Hill Road Trumbull, CT 06611 203/261-1058 fax: 203/452-9359	Quack Sporting Clays, Inc 4 Ann & Hope Way P.O. Box 98 Cumberland, RI 02864 401/723-8202 fax: 401/733-5910
National Skeet Shooting Association National Sporting Clays Association 5931 Roft Road San Antonio, TX 78253 210/688-3371 or 800/877-5338 fax: 210/688-3014 Web Site: http://www.nssa-nsca.com	Sporting Arms and Ammunition Manufactures Institute, Inc. Flintlock Ridge Office Center 11 Mile Hill Road Newtown, CT 06470-2359 203/426-4358 Web Site: http://www.saami.org

Bullet Trap Manufacturers¹

Bullet Trap Manufacturer	Designs Available	Estimated Cost of Trap	Price Includes	Not Included in Price	Usage of Trap	Description	General Comments
Action Target 801/377-8033 Contact: John Curtis	Total Containment Trap (TCT)	\$1,600 to \$1,800 /linear foot (dependent on features selected)	Purchase of Equipment Installation Delivery (Freight included)		Rifle Pistol Armor - Piercing* *dependso- n type of armor- piercing	The TCT is a funnel-style trap that uses steel plates mounted at low angles to direct bullets into a deceleration chamber. The low angles prevent break up of the bullet until it reaches the chamber, where the bullets lose energy and drop into removeable storage containers. An optional dust collection unit uses a powerful vacuum to remove lead dust and other fine particles from the collection chambers.	The TCT is designed for both indoor and outdoor applications. It may be used safely with handguns, shotguns, and high-powered rifles, and has been successfully tested and used with 50-caliber fire as well.
Action Target Con't	Rubber Berm Trap (RBT)	\$1100/liner foot	Installation and Delivery		Rifle or Pistol. Armor-Piercing. Cannot use incendiary rounds.	The RBT is very similar in form and function to a traditional sand or earthen berm trap, with the obvious difference being the use of chopped rubber instead of sand as a collection medium. Bullets fired into the trap are absorbed by the rubber, and remain there until reclamation through the mining of lead from the trap.	Because rubber is a softer collection medium, bullets can be captured with less break-up and fragmentation. The resulting reduced lead dust levels are especially beneficial in indoor ranges. This benefit is decreased as more rounds accumulate in the trap, causing newly fired bullets to impact bullets already in the trap.

¹ EPA does not endorse any particular bullet containment device or product. Information on this table is offered to readers for a general understanding of some common bullet trap options and is based on vendor marketing literature.

Bullet Trap Manufacturers Con't.¹

Bullet Trap Manufacturer	Designs Available	Estimated Cost of Trap	Price Includes	Not Included in Price	Usage of Trap	Description	General Comments
Caswell International Corp. (612) 706-6201 Contact: Brian Danielson	Granular Rubber Bullet Trap/Lamella	\$900 to \$1,700/linear foot (dependent on type of trap and other features selected, e.g., type of firearm)	Purchase of Equipment Installation Delivery (Freight included)		Pistol Rifle Armor-Piercing Shotgun Machine gun Tracers (Speak to Sales Rep.)	The trap absorbs bullets fired from any angle or distance. No exposed steel surfaces; bullets are not fragmented. The granulated material used in the trap can be turned over quickly to recover the spent rounds.	Suitable for indoor and outdoor ranges. Eight types of traps available. Custom builds traps. Provides site-specific design, if requested. Reclamation is recommended after approximately 300,000 rounds have been fired (depending on trap type.)
Copius Consultants (516) 783-7489 Contact: Craig Copius	Containment/Recovery System	Ranges from \$600/linear foot to \$1,000/linear foot (Price varies with specific design selected)	Purchase of Equipment	Shipping	Rifle Pistol Machine gun Shotgun	This is a modification of the sand backstop. Sizes vary depending on the needs and characteristics of the range; however, average height is 10' - 12' and average width is 12' - 14'. The trap utilizes ballistic grade sand to trap bullets and bullet fragments in a sealed system, which contains filtration and collection systems for ease of reclamation and to eliminate off-site migration of lead.	Copius visits the range and evaluates the following: 1) Type of usage, Quantity of usage, etc. 2) Location in country 3) Environmental issues (e.g., location near a waterbody) Based on this information, Copius suggests a specific bullet trap for the needs of the range. Price will depend on the design adopted. One unique feature is that shooting can occur at any angle

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Bullet Trap Manufacturer	Designs Available	Estimated Cost of Trap	Price Includes	Not Included in Price	Usage of Trap	Description	General Comments
RRI Range Systems (612) 332-6400 Contact: Larry Sandvig	Encasulator Trap	\$1,800/unit (4'W x8'H section)	Purchase of Equipment	Delivery Installation* *System is designed to be easily installed by range owner/operator however, installation by RRI can be contracted.	Designed to withstand projectiles from 22 long rifle through 308 Winchester.	Each unit is 4'Wx8'H with a steel backing that is covered with rubber panels (Dura-Panel™). Rubber blocks (Dura-Bloc™) are then compressed in front of the rubber panels.	Able to withstand shots fired at any angle of incidence not less than 60 degrees from a plane vertical to the face of the bullet trap system. Rubber composite panel will accept approximately 2,500 rounds of 9 - 19mm ammunition before replacement is needed. Rubber composite block will accept approximately 8,000 rounds of 9 - 19mm ammunition before replacement is needed.
Savage Range Systems (413) 568-7001 Contact: Danette Leader	The SNAIL™ Passive Bullet Trap	Three types of traps: Pistol \$1,500/linear ft Rifle \$1,700/linear ft Armor-Piercing \$2,100/linear ft	Purchase of Equipment	Shipping Installation	Rifle Pistol Armor-Piercing	The wet steel trap is designed with low angle entrance ramps to guide the bullet into the round deceleration chamber, without scarring the plate. The bullet it loses all of its energy and drops into a collection tray. The use of the water further contains the lead particulates and dust, and removes friction on the plates.	Usage for indoor and outdoor ranges. Can also be positioned with a conventional system that drops the bullet to a single collection point (55-gallon drum for recycling.)

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Bullet Trap Manufacturers Con't.¹

Bullet Trap Manufacturer	Designs Available	Estimated Cost of Trap	Price Includes	Not Included in Price	Usage of Trap	Description	General Comments
Super Trap Contact Kerry O'Neal (909)296-6272 Fax:(909)296 - 6279 (800) 482-6994	Super trap Bullet Containment System	\$1,000/linear foot	Purchase of Equipment Installation	Shipping (Price will be dependent on location)	Rifle Pistol Armor-- Piercing No Tracers	The system captures and contains bullets whole, using a media of recycled pure SBR Super Trap rubber (pure butyl rubber), free of all steel and fiber contaminates that could normally alloy fires to ignite. The infrastructure is 10-gauge steel and the Hopper/Deflection Baffle is high quality Steel Armor. The backstop base lies on a graded berm at the appropriate angle determined by the user and Super Trap staff.	Use of recycled rubber tires in the trap may allow a range to be eligible for grants. Contact regional recycling associations for more information. Not recommended for tracer or incendiary rounds. Reclamation is recommended after 500,000 rounds Super Trap performs the reclamation with vacuum devices, but reclamation can be done by range personnel via raking and sifting.

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